CLAIM LISTING

1. (Currently amended) An electric field proximity keyboard on a substrate, comprising:

a plurality of keypads each having an electrode radiating an electric field;

a circuit including as follows:

a high impedance circuit having a first node and a second node;

an AC signal source coupled to the first node;

an analog multiplexer having an output coupled to the second node, and having a plurality of inputs wherein each input is coupled to one electrode;

a detector circuit generating a DC output based on the voltage difference across the first node and the second node; and

a controller coupled to the DC output and the analog multiplexer wherein the controller issues control commands to the analog multiplexer to selectively couple each electrode to the second node for a predetermined time period and to determine whether the DC output indicates a disturbance in the electric field from an object in close proximity or touching the keypad and wherein the object in close proximity or touching each keypad disturbs the electric field attenuating the voltage at the second node and the voltage difference between the first and second nodes indicates the distance of the object to each keypad.

2. (Canceled)

3. (Currently amended) The keyboard of claim 1, wherein the plurality of keypads [is] are arranged in ~~an~~ a m x n array with m rows and n columns, wherein each keypad ~~include~~ includes an electrode pair including a row electrode coupled to a row address and a column electrode coupled to a column address, wherein the quantity of keypads is increased by m x n while the I/O addresses are determined by m + n.

4. (Currently amended) The keyboard of claim [3] 1, wherein each keypad includes a plurality of ~~electrodes~~ electrode pairs arranged in a m x n array, wherein m rows and n columns of ~~electrodes~~ the electrode pairs are associated with each keypad, wherein each electrode pair includes a row electrode coupled to a row address and a column electrode coupled to a column address, wherein the sensitivity and resolution of [a] each keypad is increased by m x n times.

5. (Original) The keyboard of claim 1, wherein the controller is programmed to store, adjust and compensate for the shape, size, conductivity, proximity of the object with respect to the plurality of electrodes and environmental conditions.

6. (Original) The keyboard of claim 1, wherein the circuit is integrated with the controller in a semiconductor IC.

7. (Canceled)

8. (Original) The keyboard of claim 3, wherein the circuit is integrated with the controller in a semiconductor IC.

9. (Original) The keyboard of claim 4, wherein the circuit is integrated with the controller in a semiconductor IC.

10. (Original) The keyboard of claim 5, wherein the circuit is integrated with the controller in a semiconductor IC.

11. (Currently amended) An electric field proximity keyboard on a substrate, comprising:

a keypad having an electrode radiating an electric field;

a circuit including as follows:

a high impedance circuit having a first node and a second node;

an AC signal source, wherein the AC signal source is coupled to the first node and the electrode is coupled to the second node;

a detector circuit generating a DC output based on the voltage difference across the first node and the second node; and

a controller coupled to the DC output wherein the controller determines whether the DC output indicates a disturbance in the electric field from an object in close proximity or touching the keypad and wherein the object in close proximity or touching the keypad disturbs the electric field attenuating the voltage at the second node and the voltage difference between the first and second nodes indicates the distance of the object to the keypad.

12. (Currently amended) The keyboard of claim 11, wherein one or more of the AC signal source, [a] the high impedance circuit, and the detector circuit are integrated with the controller on a single semiconductor.

13. (Canceled)

14. (Currently amended) The keyboard of claim 11, wherein the controller is programmed to store, adjust and compensate for the shape, size, conductivity, proximity of the object with respect to the ~~plurality of electrodes~~ electrode and environmental conditions.

15. (New) An electric field proximity keyboard on a substrate, comprising:

a plurality of keypads each having as follows:

an electrode radiating an electric field;

a circuit including as follows:

a high impedance circuit having a first node and a second node;

an AC signal source coupled to the first node;

a detector circuit generating a DC output based on the voltage difference across the first node and the second node;

an analog multiplexer having an output coupled to the second node, and having a plurality of inputs wherein each input is coupled to one electrode; and

a controller coupled to the DC output and the analog multiplexer, wherein the controller issues control commands to the analog multiplexer to selectively couple the electrode to the second node for a predetermined time period and to determine whether the DC output indicates a disturbance in the electric field from an object in close proximity or touching the keypad, wherein the plurality of keypads is arranged in a m x n array with m rows and n columns, wherein each keypad include an electrode pair including a row electrode coupled to a row address and a column electrode coupled to a column address, wherein the quantity of keypads is increased by m x n while the I/O addresses are determined by m + n.

16. (New) The keyboard of claim 15, wherein each keypad includes a plurality of electrode pairs arranged in a m x n array, wherein each electrode pair includes a row electrode coupled to a row address and a column electrode coupled to a column address, wherein the sensitivity and resolution of each keypad is increased by m x n times.

17. (New) The keyboard of claim 15, wherein the controller is programmed to store, adjust and compensate for the shape, size, conductivity, proximity of the object with respect to the electrode pairs and environmental conditions.

18. (New) The keyboard of claim 15, wherein the circuit is integrated with the controller in a semiconductor IC.

19. (New) The keyboard of claim 16, wherein the controller is programmed to store, adjust and compensate for the shape, size, conductivity, proximity of the object with respect to the plurality of electrodes pairs and environmental conditions.

20. (New) The keyboard of claim 16, wherein the circuit is integrated with the controller in a semiconductor IC.

21. (New) The keyboard of claim 17, wherein the circuit is integrated with the controller in a semiconductor IC.

22. (New) The keyboard of claim 19, wherein the circuit is integrated with the controller in a semiconductor IC.